

Comparing Medical Emergency Preparedness in U.S. Public and Academic Libraries

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Abstract

This study sought to determine what medical emergency resources and training are provided in U.S. public and academic libraries, how public versus academic preparedness compares, and what reasons may contribute to decisions against adoption. Survey responses from 65 libraries were analyzed regarding availability of, plans to acquire, or reasons for not acquiring five interventions—automatic electronic defibrillators (AEDs), naloxone, epinephrine, cardiopulmonary resuscitation (CPR) training, and mental health crisis training. Findings showed that these interventions were not necessarily common—41.5% of respondents offered zero of the five interventions, while the most common, AED, was available in 52.3% of libraries. AEDs and epinephrine were somewhat more common in academic libraries, but naloxone, CPR training, and mental health crisis training were more common in public libraries. Primary reasons for not adopting medical interventions included alternative emergency response options, cost, concerns regarding legal liability, and the sense that this is outside the scope of a library's duties. Implications and considerations for library planning are discussed.

Keywords: public services; public libraries; academic libraries; medical emergencies

Introduction

Medical emergency preparedness is important for U.S. libraries. Consider sudden cardiac arrest, a leading cause of death in the U.S., as one example. According to American Heart Association (AHA) data from 2020, more than 356,000 cardiac arrests occur outside hospitals each year, nearly 90% of them fatal (Sudden Cardiac Arrest Foundation). Nearly 20% of these events occur in public places, and nearly 40% are witnessed by non-medical-provider bystanders (Sudden Cardiac Arrest Foundation). The victim can die if not treated within minutes, but an average of 4-10 minutes may pass before emergency medical services can arrive (Piazza, 2018). Studies have found that, compared to waiting for emergency medical services to arrive and shock the heart, a shock provided by a bystander with a publicly accessible automatic electronic defibrillators (AEDs) device granted victims far greater odds of survival (67% versus 43%) and much higher chances of surviving with only minimal disability (57% versus 33%) (Piazza, 2018).

Bystanders in public places—particularly employees who are most familiar with those spaces and their patrons—genuinely are positioned to save lives. When we consider the vulnerable groups of people who often leverage library services—and how these overlap with populations who lack robust access to regular preventative health care services, are disproportionately affected by issues such as a lack of healthy food access, obesity, heart disease, and more, and may experience longer wait times for emergency medical services—we recognize the chance for libraries to witness such emergencies and the opportunity for well-prepared personnel to save lives. However, AHA survey results have found that many American workers lack training in cardiopulmonary resuscitation (CPR) and first aid, and 50% of workers cannot find the AED in their workplace (American Heart Association, 2018). While libraries have an opportunity to care for their patrons when emergencies arise, they must first be equipped with the necessary resources and training.

Public libraries already have a history of serving as partners in supporting community health and wellness, primarily through the provision of health information and programming, but sometimes also by conducting staff training in medical emergencies and taking action, such as employing AEDs or administering CPR, when emergencies arise. In particular, over the past five years, more public libraries have responded to the opioid crisis in America by training staff and/or community members on the use of naloxone (a drug that can reverse an opioid overdose) and maintaining a supply of naloxone which can be administered by staff to patrons experiencing an overdose.

However, very little research has been done regarding academic library provisions of similar medical emergency interventions. While AEDs are relatively common at public universities as part of state safety guidelines, steps like purchasing naloxone or providing CPR training remain largely unaddressed in professional literature. The purpose of this study is to compare the availability of medical emergency interventions in public and academic libraries in the U.S. and to begin a preliminary investigation into the reasons for not adopting them, especially in academic libraries.

Academic libraries serve a different demographic of patrons than public libraries; by virtue of their college attendance, students may be perceived as more privileged and less medically vulnerable (despite campus studies indicating that 59% of U.S. students experience food insecurity during their college careers, according to Dennon, 2021). Traditional college students aged 18-24 years also face a lower incident of medical emergencies such as sudden cardiac arrest based on their age. However, U.S. college students are increasingly “non-traditional,” including older adult students, projected to comprise 42% of the student body by 2025; low-income students; and students juggling a larger number of stressors on top of school, such as employment (60%), childcare (26%), elder care (Adult students in higher education statistics) or even food insecurity, housing instability, or poverty (Lumina Foundation, 2019). Additionally, academic libraries serve more than just students; they also support college faculty, who average a higher age than American employees generally at 49 years old (Flaherty, 2020), and they are the workplace for academic librarians who also average higher ages than society in general at 47.6 years (Librarians). Given these facts, we foresee value in benchmarking academic as well as public library preparation for medical emergencies.

Literature Review

A distinction can be made between libraries providing consumer health information services (CHIS) and programming to help patrons improve their own health and safety, versus libraries training their personnel to provide health and safety interventions during emergencies. This literature review will focus on the latter; however, Elia (2019) and Philbin et al. (2018) provide a solid starting point on the former aspect of public health support. This literature review will also not address non-medical security and emergency preparedness for natural disasters, weapons, theft, and so forth.

A wealth of news items can be found that simply advertise a specific library’s adoption of external defibrillators, CPR training, or naloxone (see, for example, Cuyahoga county, 1983; Library installs..., 2002; All BCPL branches..., 2013; Naloxone training..., 2016; Vargas & Dudley, 2016; Naloxone training..., 2018; Aldrich, 2018). Successful overdose reversals at libraries have also received popular press coverage (see, for example, Perez 2018).

Some existing literature addresses the role of public libraries in public health and safety broadly. Friedheim (2017) focused on libraries forming partnerships to integrate social welfare programs; assist

patrons with homelessness, unemployment, substance abuse, and mental health; provide social services training or social workers on site; and even provide safe needle disposal. A piece by Wilkinson (2008) functions persuasively, arguing the need for first aid, CPR, and AED training in libraries. Factors such as cost, time requirements, and staff awareness are discussed in detail, as well as opportunities to leverage “existing institutional programs” from a university or city government (81). Wilkinson argues that “factors such as extended hours, coffee shops, wireless Internet services, and expanded community events” increase the need for such training and that “attending appropriate, relevant training should become part of an employee’s job” (83-84).

A more specific body of literature addresses emergency measures pertaining to the opioid crisis in public libraries; the Public Library Association sponsored a 2017 webinar with WebJunction and issued an important 2020 report on the topic (Opioid crisis town hall; Allen et al.). Within the past five years, more public libraries have responded to the opioid crisis by serving as sites for training on the use of naloxone or maintaining a supply of naloxone which can be administered by staff to patrons experiencing an overdose, but barriers to adoption remain.

Real and Bogel (2019a) provided a concise background to the opioid crisis and the connection to libraries, then conducted interviews with personnel in seven public libraries to analyze library response plans. Six of seven libraries trained staff in CPR, more than half had AEDs, and all had insurance for medical incidents and incident documentation procedures. Four of seven libraries “facilitated staff training in naloxone administration and encouraged employees to have doses...available in their buildings;” in all four cases, “staff were trained to carry the nasal injector version..., due to its ease of use and it being perceived as less risky than syringe-based administration” (260). A variety of considerations, both positive and negative, factored into adoption decisions, including staff fear of harming a patron; staff fear of being harmed by a revived patron; resistance to “expansion of duties;” cost effectiveness; proximity to other trained emergency responders; lack of side effects from naloxone administration, even in the absence of an overdose; comparing the risks of naloxone administration and common interventions like CPR; and moral objections: some people “feel like, well, it’s basically self-inflicted and have no sympathy” (265).

Ford (2017), Bump (2018), Correal (2018), Freudenberger (2019), Real and Bogel (2019b), and Coleman et al. (2020) all reported on libraries that chose to stock and administer naloxone, as well as other measures libraries have taken aimed at preventing drug overdoses on site, such as increased security and monitoring, no-sleeping policies, requiring IDs to use bathrooms, providing sharps containers for safe needle disposal, redesigning bathroom walls and doors, installing blue lights in bathrooms (not recommended for safety concerns), community education, addiction treatment program partnerships, and providing a “life skills curriculum” for nonviolent drug offenders. Coleman et al. reported that six out of eight libraries interviewed provided naloxone training, two had CPR training, and three provided sharps disposal; challenges included funding needs and social stigma.

Ford (2020) described hesitant library participation in a manufacturer program to distribute free naloxone doses to U.S. public libraries; some concerns included the possibility of staff being harmed because of the “tendency for people who are revived using Narcan to be in an agitated or belligerent state” (41). Lowenstein (2021) evaluated an overdose training program in Philadelphia public libraries and found that “interviewees ...experienced barriers to naloxone acquisition, including cost, stigma, and concern regarding future insurability” (250).

Morgan et al. (2016) argued that, although public libraries are not often given a seat at the table when discussing community wellness, they are “well positioned to be partners in building a culture of health” (2030), and Real and Bogel observed that “the libraries in this study have expanded their mission to include support for vulnerable population, an ethical choice that reflects the view of public libraries as providers of public services to all” (2019a, 254). However, academic libraries are not necessarily positioned or viewed the same way. At the time of this literature review, no published works were found that addressed naloxone use in academic libraries, and even less radical interventions such as CPR and AEDs were only minimally mentioned as a function of security, alongside other non-medical security measures (Sanders, 2012).

As a final component of the literature review, standards from major library professional associations were explored for any guidance regarding medical emergency preparedness. Resources shared by the Public Library Association (PLA) focused on pandemic preparedness (a highlight of the COVID-19 era), disasters, violence prevention, mass shootings, and general safety and security topics such as fire and theft (Emergency preparedness). Even after clicking two to three levels down through these resources, the greatest detail found related to medical emergencies was a recommendation from the Library of Congress to “Keep basic emergency supplies ready” (Preparedness) and recommendations from a 2010 LLAMA Library Security Guide indicating that “emergency first aid qualified” and “cardio pulmonary resuscitation (CPR) qualified” were desirable as opposed to mandatory qualifications when employing library security officers (LLAMA, 23). On the academic library side, the only relevant link discovered from the Association of College & Research Libraries (ACRL) Professional Tools page was actually for Academic Library Building Design, a guide which contained a page on Safety and Security, which then included some links regarding the opioid crisis and the provision of naloxone in some, primarily public, libraries (Academic library building design). Neither PLA nor ACRL centered medical emergency preparedness in library buildings as part of their values, priorities, or topics of guidance.

Aims

This study sought to address the following questions:

1. What medical emergency resources and training are provided in U.S. public and academic libraries?
2. Do significant differences exist in public versus academic libraries’ medical emergency preparedness?
3. For what reasons do libraries decide against adopting key medical emergency resources and training?

Methodology

A mixed-methods questionnaire was created to determine what forms of equipment and training were available in a library; to what extent non-available resources had been considered; and what factors might inhibit provision of particular resources. The survey also gathered demographics of the library represented by the response; however, individual demographics of the survey respondents were not requested. The survey instrument was reviewed and approved by the Institutional Review Board (IRB) of Sam Houston State University. The survey was tested for face validity but not pilot tested; a copy of the survey is provided in Appendix A.

The survey was distributed in professional listservs and discussion groups, including the Texas Library Association’s District 8 and College & University Libraries Division (CULD) lists; the American Library Association’s ALA Members and RUSA (Reference and User Service Association) lists; and the Association of College and Research Libraries’ ACRL Members and Heads of Public Services Discussion Group lists. A survey invitation was also posted in the LibParlor Classifieds through The Librarian Parlor website and in the following Facebook groups: Library Think Tank #ALATT, Houston Area Librarians, Academic Libraries, Library Employees Support Network, and Academic-Librarian Mamas. Survey responses were accepted from September 9 through October 7, 2021.

Questions with restricted response options were analyzed quantitatively, while open-ended questions were coded and analyzed thematically. The grounded theory approach was used for coding; the coder identified themes that emerged through multiple readings, and these themes were iteratively reviewed, grouped, and clarified until they formed representative high-level categories. Table 1 describes the final list of thematic codes describing barriers to adoption. All coding was performed by a single individual, so inter-rater reliability was not a concern.

Table 1. Coded themes describing barriers to adoption

Name	Description
Access (Non-Specific)	Addresses a general lack of access to a resource, without specifying cost, permission, etc.
Alternatives	Addresses the ready availability of alternative options, such as city, county, university, or other nearby emergency response provisions
Cost	Addresses monetary or economic cost of equipment or training
COVID	Addresses the impact of the COVID-19 pandemic on acquiring resources or maintaining regular training or certification
Emotion	Addresses emotional hesitancy of staff who feel unqualified and do not want to be responsible
Expiration	Addresses the expiration of unused product (perceived waste)
Institutional Permission	Addresses a need for or uncertainty regarding institutional permission to possess or provide an intervention
Lack of Interest	Addresses a lack of personnel interest in the intervention
Lack of Need	Addresses the lack, or perceived lack, of need for the intervention
Lack of Priority	Addresses a lack of priority placed on first aid or emergency preparedness
Legal Liability	Addresses a fear of or concern regarding legal liability resulting from an intervention or mistake
Limited Availability of Training	Addresses the limited availability of appropriate training
Limited Hours	Addresses limited hours of service / availability
Management/Staffing	Addresses various issues of management philosophy or adequate staffing
Need (Existing Skill)	Addresses the lack of need to adopt training specifically due to existing staff knowledge or skill
Out of Scope	Addresses an intervention being deemed outside the scope of a library's duties/functions
Patron Safety	Addresses concerns about patron safety

Personal Responsibility	Addresses the belief that people with medical concerns should carry potentially needed medication themselves
Religious Views	Addresses religious views towards an intervention or the source of its need
Requests Denied	Addresses the denial of past requests by personnel to have the intervention available
Safety (Non-Specific)	Addresses concerns about safety, but without specifying staff or patron
Staff Safety	Addresses concerns about staff safety
Stigma	Addresses existence or perception of social stigma or prejudice concerning an intervention or the source of its need
Time Required	Addresses time commitment required for sufficient training
Thought	addresses a lack of prior consideration of the intervention
Training (Non-Specific)	Addresses training as a barrier, but without specifying lack of availability, time required, or cost

Additional library demographics—population size, locale, and region for all libraries, as well as Carnegie Classification and control for academic libraries—were also added to the dataset, using the Institute of Museum and Library Services (IMLS) Public Libraries Survey for Fiscal Year 2019, Integrated Postsecondary Education Data System (IPEDS, 2018-19), and Carnegie Classifications® (2018).

Results

One hundred survey responses were initiated and 65 were completed; of those, all were deemed eligible for analysis. Multiple responses were received from a seemingly common library in only one case; these two responses were evaluated for merger but eventually left separate due to irreconcilable differences in responses that suggested separate branch libraries on a campus. All told, 28 (43.1%) surveys were submitted from academic libraries, while 37 (56.9%) were completed by public libraries. Although this sample size is relatively small compared to the total number of public and academic libraries in the United States, it is nevertheless a significantly larger sample than the seven to eight libraries interviewed in studies discussed in the literature review.

Library Demographics

Libraries were classified by region according to Bureau of Economic Analysis Region Codes as assigned in IMLS and IPEDS datasets. The largest number of libraries (23 of 65, or 35.4%) were located in the Southwest; 18.5% in the Plains; 13.8% in the Mid East; 10.8% in the Southeast; 6.2% each in the Great Lakes and Far West; and 4.6% each in the Rocky Mountains and New England. No responses were received from Outlying Areas (see Figure 1).

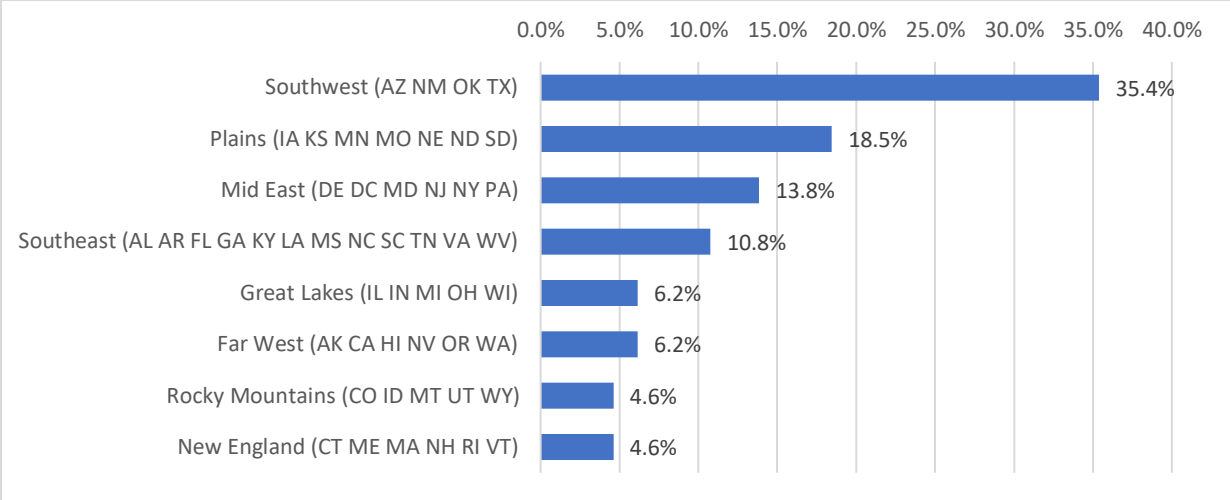


Figure 1. Libraries by region

Libraries were also classified by the current Urban-Centric Locale Codes [as defined by](#) the National Center for Education Statistics (NCES) and assigned in IMLS and IPEDS datasets. Nearly 45% of libraries were located in cities, nearly 17% in suburbs, almost 25% in towns, and nearly 14% in rural areas (see Figure 2). Library service populations were also obtained from IMLS and IPEDS datasets; for public libraries, the individual branch named was used for demographics if it was listed in the Public Libraries Survey; if the branch was not listed, the larger affiliated system’s population was used. Population varied widely: the largest population was 3,407,167 and the smallest was 580. The mean population for public libraries was 287,303; the mean population for academic libraries was 19,883.

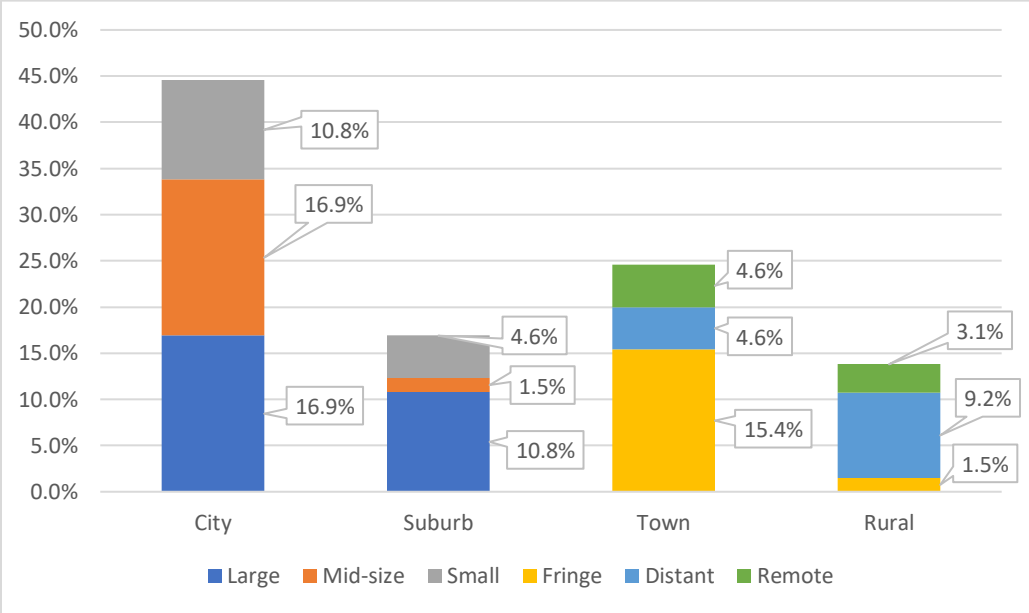


Figure 2. Libraries by locale

Carnegie Classifications and control categories (public, private non-profit, private for-profit) were also noted for academic libraries. Among academic respondents, 75% were public and 25% were private

non-profit. R1 Doctoral Universities accounted for 21.4% of responses; R2 and D/PU institutions each accounted for 14.3%. Associate’s Colleges made up 21.4% of responses. Master’s Colleges and Universities (ranging large to small) yielded 10.7% of responses, and another 10.7% of responses came from Special Focus Four-Year schools (represented here only by medical schools & centers, and other health professions schools). Just one response (3.6%) each was received from Baccalaureate Colleges and Baccalaureate/Associate’s Colleges. No responses were received from Special Focus Two Year schools or Tribal Colleges.

Intervention Availability

Automatic external defibrillators (AEDs) were the resource most likely to be available to both public and academic libraries: 52.3% of libraries were equipped, and 15.4% indicated that acquisition was in their long-term plans (see Figure 3). Another 32.3% of respondents said they had no plans for acquisition; in many of those cases, alternatives were readily available nearby. Among the roughly half of libraries that had AEDs, 20.6% required training for all employees, while another 38.2% offered optional training. In 14.7% of these libraries, training was not offered, because they had dedicated staff to employ this intervention if required.

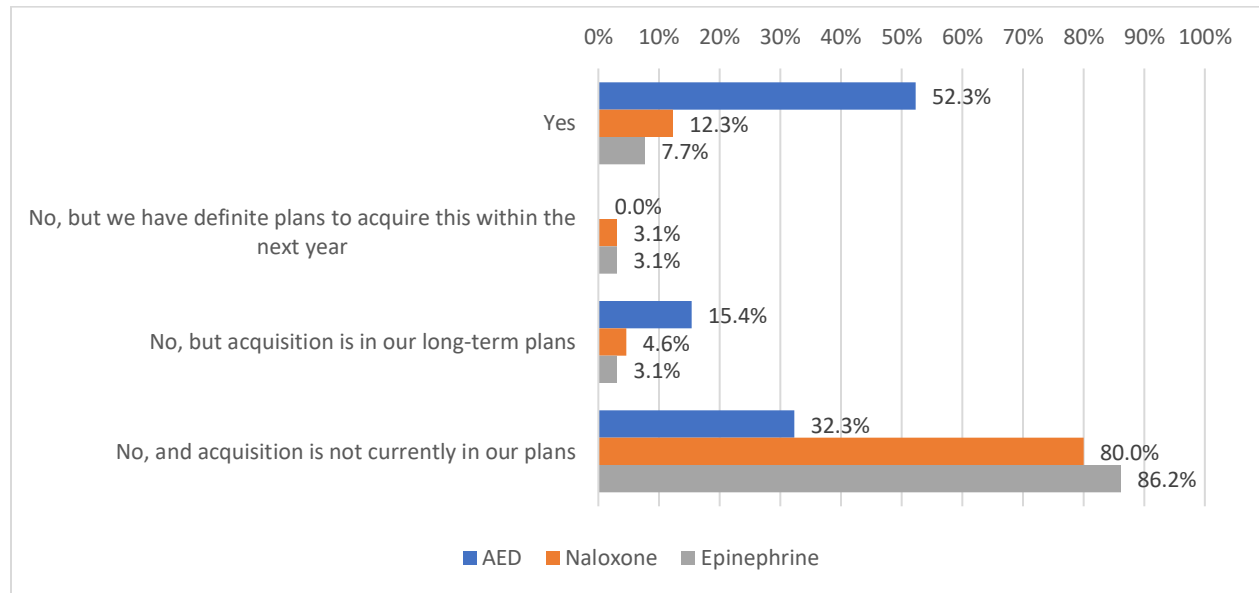


Figure 3. Intervention availability or intent to acquire

Naloxone was available in a few cases but was not common: only 12.3% of libraries surveyed (n=8) currently had naloxone available, and only 7.7% expected to acquire it (3.1% in the next year, 4.6% long-term). The vast majority of libraries, 80.0%, indicated no plans to acquire naloxone (see Figure 3). Among the eight libraries that carried naloxone, one required training for all employees; five offered optional training to employees; one did not offer general training because they had dedicated staff to employ the intervention if needed; and one did not offer training but had discussed the possibility of doing so.

Epinephrine was even less likely to be available than naloxone: only 7.7% of libraries (n=5) made epinephrine available for medical emergencies (see Figure 3). Among those, one required training for all employees; one offered optional training; two did not offer general training because they had dedicated

staff to administer if needed; and one did not offer training but had discussed the possibility of doing so. Future provision of epinephrine was planned by 6.2% of libraries (3.1% in the next year, 3.1% long-term), while the majority (86.2%) indicated no plans to acquire epinephrine.

CPR training was required for all employees at 13.8% of the 65 responding libraries and offered optionally at another 26.2% of responders. Training was not offered at 6.2% of libraries due to dedicated staff being available to provide the intervention if needed; 21.5% have discussed providing this training, and 32.3% have not discussed the possibility (see Figure 4).

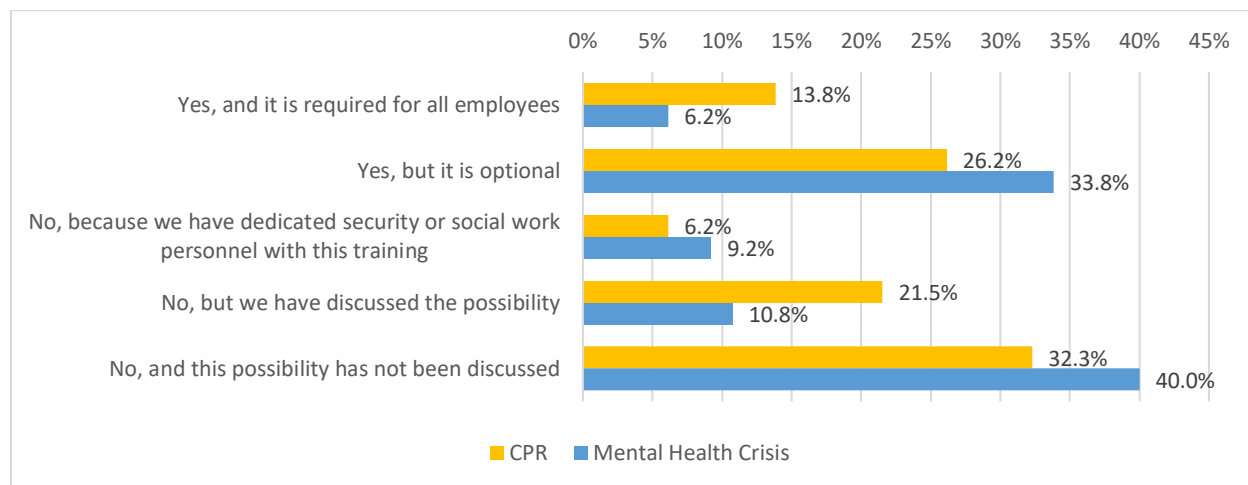


Figure 4. Provision of training for CPR and mental health crises

Training regarding how to handle a mental health crisis is required for all employees at 6.2% of the 65 responding libraries and offered optionally at 33.8% of libraries. Training was not offered at 9.2% because dedicated staff were available to provide the intervention if needed. Another 10.8% have discussed the possibility of introducing this training, but 40.0% have not discussed the possibility (see Figure 4).

Only one library (1.5%) offered all five of the interventions addressed in the survey, while three libraries (4.6%) offered four of five interventions. Three interventions were available in 12 libraries (18.5%); two interventions were available from 15 libraries (23.1%); and 16 libraries (24.6%) offered only one of the five interventions. Meanwhile 27 of 65 libraries (41.5%) did not provide any of the five interventions addressed in the survey.

When divided between public and academic libraries, academic libraries were actually more likely than public libraries to have AEDs (64.3% versus 43.2%) and epinephrine (10.7% versus 5.4%), but public libraries were more likely to have naloxone (16.2% versus 7.1%). Only a few public libraries indicated definite plans to acquire naloxone or epinephrine within the next year (5.4% for each), and no academic libraries indicated any definite plans for acquisition of AEDs, naloxone, or epinephrine. Long-term planning was more positive: among public libraries, 24.3% would like to add AEDs, 8.1% would like to add naloxone, and 2.7% would like to add epinephrine. Among academic libraries, 3.6% would like to add AEDs and 3.6% would like to add epinephrine. The overwhelming majority of responses still showed no plans to acquire naloxone (70.3% public, 92.9% academic) or epinephrine (86.5% public, 85.7% academic).

CPR training was more than twice as likely to be required for all employees in public versus academic libraries (18.9% public versus 7.1% academic). Academic libraries were more likely to offer optional training (24.3% public versus 28.6% academic), but academic libraries are also much more likely to have never even discussed the possibility of CPR training (24.3% public versus 42.9% academic). Public libraries not yet offering CPR training were more likely to have discussed the possibility (27.0% public versus 14.3% academic).

Mental health crisis training was not commonly required in either type of library (5.4% public and 7.1% academic) but was more frequently available as optional training (37.8% public and 28.6% academic). A significant number of libraries in both groups had not discussed the possibility (37.8% public and 42.9% academic). Academic libraries were more likely to not offer training because dedicated staff were available to provide intervention if needed (5.4% public versus 14.3% academic).

In addition to specific questions regarding these five interventions, respondents were also given open-ended fields to describe other equipment or training interventions available in their libraries. Twenty-two of the 65 libraries reported having first-aid kits, and seven reported Stop the Bleed kits and/or training. Other interventions mentioned by only one or two libraries included Red Cross first-aid training, masks, goggles, gloves, fire blanket, eye-wash station, CPR mask, and biohazard bodily fluid clean-up kits.

Reasons for Not Adopting

Across almost all interventions, the most common reason for not adopting was simply the ready availability of *Alternatives* (see Figure 5). Illustrative comments included: “There is access to an AED in the clinic that is on the same floor as the library, so we would use that rather than maintaining a separate one;” “Ambulance response time is very quick at the library and one of our local hospitals is less than 5 minutes away;” “Our university is a health sciences school so we generally have doctors and nurses around if a medical emergency were to arise;” and “Campus would prefer to have everything centralized.”

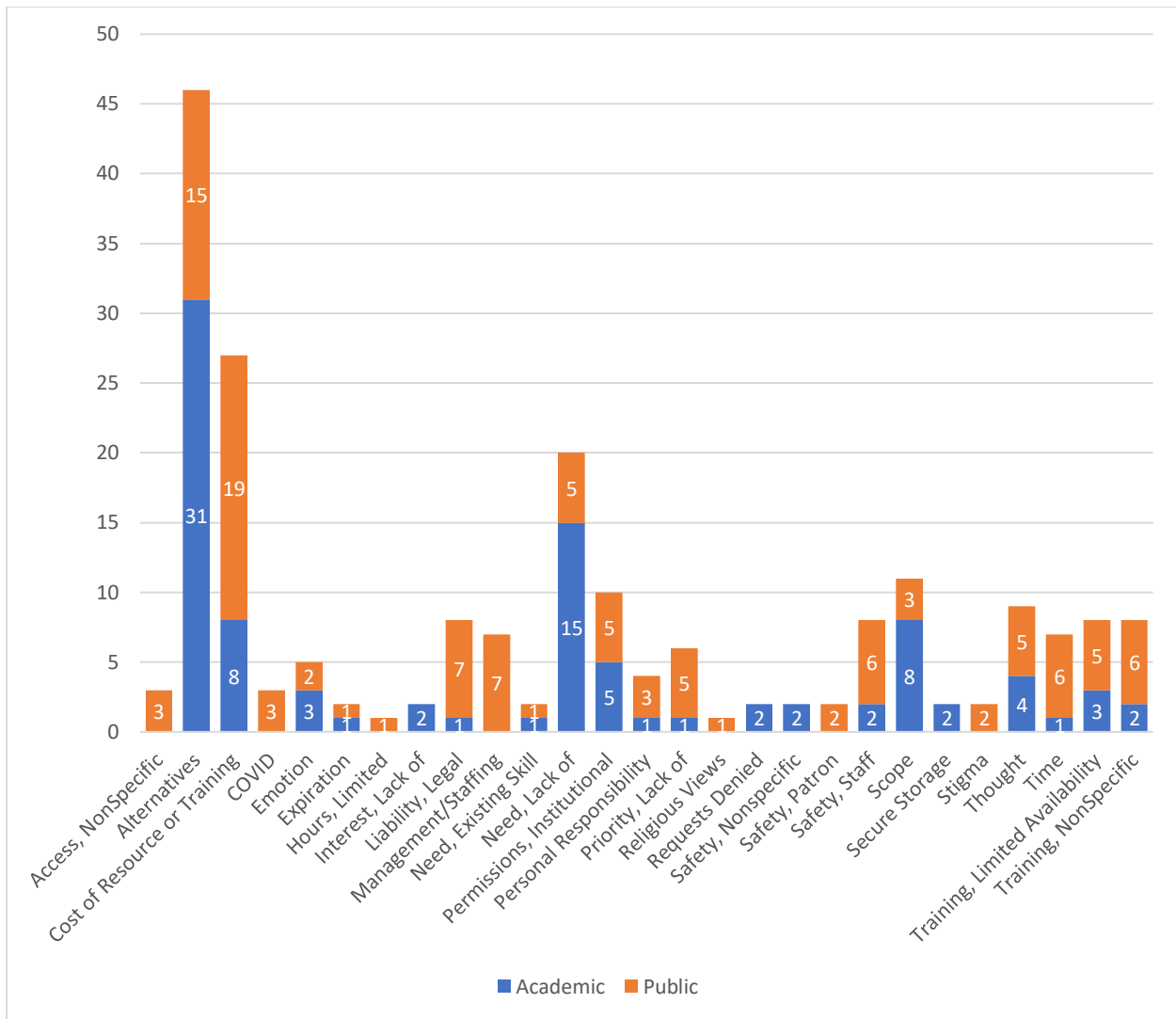


Figure 5. Count of reasons for not adopting as coded across all interventions

Only CPR training did not see *Alternatives* as the most common factor, but rather *Cost* came first for CPR. *Cost* was the second factor noted for AEDs and epinephrine and was the third most common factor to implementing mental health crisis training. Discussion of cost barriers included the initial cost to purchase equipment or medication, as well as the ongoing costs to maintain or replace the equipment; replace expired medication; and fund appropriate staff training. Comments included: “Funds for purchase, training, and maintenance” (AED); “We asked to have one [AED] provided in the Library, but were told the University could not provide it... We would have to purchase and maintain our own, and that does not seem to be feasible;” “The cost isn’t in the budget and there hasn’t been a need” (epinephrine); “Cost. My husband cannot afford an epi pen and he has had asthma for 74 years;” “Cost of classes” (mental health crisis training). When comparing public to academic libraries, the influence of *Cost* versus *Alternatives* did see a shift, with *Cost* being more significant in the public sphere and *Alternatives* being more available in the academic sphere.

Some respondents, particularly academic, identified *Lack of Need* as an influential factor in not adopting an intervention. For naloxone, *Lack of Need* was a very close second to *Alternatives* as a reason for not

adopting. Comments regarding a lack of need for naloxone included, “There does not appear to be a big drug problem on campus;” “We do not have a lot of public users;” and “We are a very small rural branch; demographics might not support.”

Some respondents did not necessarily feel that an intervention was unneeded, but simply that it was *Out of Scope* of a library’s responsibility. Supporting comments included: “I do not believe non-medical people should be doing medical type things;” “Staff feel it is not their place to administer or be able to accurately determine whether it is needed;” “These are not services I think we should be providing, at all;” “I feel that we’d end up providing sub-par service by trying to be everything to everyone.”

In the case of epinephrine in particular, the theme of an intervention being out of scope related in part to the idea of *Personal Responsibility*. Patrons were expected to be aware of their own allergic risks and carry epinephrine proactively. Comments included: “Students tend to carry the medications they need;” “Assumption that those with allergic reaction possibilities will have their own epi-pen;” “Most folks who have an issue carry an epi pen;” and “We leave that to patrons & staff members to provide for themselves.”

On the opposite end of the spectrum, some respondents indicated that an intervention was definitely needed and had been requested by the library but had been denied by upper administration or the library’s parent entity (coded as *Requests Denied*). Comments included “We really need this. We have had about one person freak out every three years for the last 20. We need this training and ask for it but we do not receive it” (mental health crisis training); “We asked to have one provided in the Library, but were told the University could not provide it” (AED); “We keep requesting first aid training. Campus Staff organizations say they cannot afford training us” (other training); “The only thing I would be willing to have in my library is a defibrillator, and I haven’t been able to get that” (AED). One may assume that the denial of requests is related to concerns of cost and/or scope originating from higher levels of decision-making.

The sense of appropriateness for providing an intervention was also sometimes impacted by *Institutional Permissions* and *Legal Liability*. Some respondent comments centered around the larger institution, for example: “University policy is that we call 911;” “It would be a system decision;” “We can’t make a decision like this on our own.” Meanwhile other respondents commented that reasons for not adopting included “Legality of use” (epinephrine); “Director is afraid of being sued” (naloxone); “Fear of liability” (AEDs); “I am not trained in this [administering medication], and do not wish to be sued for any errors” (naloxone and epinephrine); “My opinion is fear of legal consequences, both from the overdosed person and if a staff member is injured or infected by giving naloxone” (naloxone).

This last reference to potential staff member injury overlaps with another coded factor, Safety, which manifested as *Staff Safety*, *Patron Safety*, and *Safety (Non-Specific)*. For example, respondents cited concerns about the “risks of treating a person who may become combative” (naloxone); “A large part of the staff is retirement or older, [and] CPR is very labor intensive” (CPR); “Caution for use by staff to properly use AED equipment” (AED); “We do not know if the victim has any known drug allergies” (epinephrine); “We do not have a safe way for this to be administered to patrons” (naloxone and epinephrine).

Another factor identified was *Limited Availability of Training*. Example comments included “Training opportunities on campus are quite limited” (AED, CPR); “I need to find out who would do the training”

(CPR); “Who would do the training?” (mental health crisis); “Haven't set a time or found the person to lead the training” (AED); and “Not even our university has offered this kind of training” (mental health crisis).

Finally, the COVID-19 pandemic has made its mark in this area as it has on so many others. One respondent suggested that AED equipment was hard to acquire because of the pandemic—whether because of greater funding struggles or actual product availability in the midst of supply chain problems. Other comments related to training and staff emotional load: “It has been difficult to maintain annual training in the COVID era;” and “We are all emotionally exhausted from the ups and downs of serving the public during a pandemic. I don't want to put any more stress on staff right now.”

Other Comments

At the end of the questionnaire, respondents were provided with an open field for other relevant comments. A few comments and themes worth noting, beyond those themes already coded as reasons for not adopting, included the following:

- Lack of past emergencies
 - “The only medical emergency I can recall in 17 years here was a fall right outside the library.”
- Concern regarding unpreparedness
 - “We are a disaster waiting to happen.”
 - “We are not prepared for emergencies.”
 - “We haven't had even a planned fire drill in four years.”
 - “We don't even have access to the basement if there is a tornado.”
 - “If a disaster were to occur, then the college would see about providing more training for employees. But something has to happen, first.”
- Confidence in preparedness
 - “Since we got our makerspace, our library has really taken safety and medical emergency preparedness seriously.”
 - “We have had medical and behavioral emergencies in the past and have handled them well.”
- Expectations of public spaces
 - “I believe that libraries, like malls or airports, should have an AED on site with clear signage and informed staff. CPR training should be offered and epi-pens available. ...Urban libraries like [library name] would also benefit from sharps containers in the restrooms.”

Discussion

This discussion will relate the study's findings to past research and attempt to situate it in a broader context of facts and trends related to both medical emergencies and libraries. Overall findings about the prevalence of various medical interventions do not entirely validate previous smaller studies. Whereas Real and Bogel reported that “more than half” of the seven public libraries they interviewed held AEDs on site (2019a, 260), the present study showed that just 42.3% of public libraries had AEDs on site. Real and Bogel identified CPR training in six of seven public libraries interviewed (85.7%) and Coleman et al. (2020) noted CPR training in only two of eight public libraries (25%), while the present study fell in

between these results, recording CPR training in 43.2% of public libraries (18.9% required and 24.3% optional). Four of seven libraries interviewed by Real and Bogel (57.1%) actively encouraged staff to learn naloxone administration, and six of eight (75%) of those interviewed by Coleman et al. provided naloxone training; in contrast, the present study found that naloxone training was available from only 16.2% of public libraries surveyed.

Importantly, Real and Bogel and Coleman et al. both intentionally focused on public libraries that were directly impacted by the opioid crisis. Therefore, their studies finding a higher rate of naloxone adoption is reasonable, and the correlation with greater adoption of other medical interventions is unsurprising. The current study's findings may provide a better baseline for understanding the preparedness of public libraries more generally, without focusing on those already addressing a public health crisis head-on. Meanwhile the data collected regarding intervention availability in academic libraries provides unique insight in this area.

Findings regarding comparative adoption in public versus academic libraries were mixed. Academic libraries seemed better equipped with AEDs and epinephrine, though the latter is still very rarely adopted in either type of library. However, academic libraries lagged behind public in adoption or even consideration of naloxone, CPR training, and mental health crisis training.

The most identified reason for libraries, both public and academic, to not have a specific medical intervention available was the ready availability of alternatives, reinforcing Real's and Bogel's observations about "close proximity" to other trained emergency responders being a factor in decision-making (2019a, 263). To a great extent, this is quite reasonable. For example, small libraries that co-exist inside a building with other public services need not duplicate medical emergency interventions that are available elsewhere in that building. Having a hospital, fire station, or other emergency responder nearby is a benefit. Respondents from academic institutions Carnegie-classified as Special Focus in the medical or health science fields were particularly adamant that the presence of medical professionals across campus precluded the need for any specialized medical emergency training among library personnel. Each library must consider such factors in its own context to judge what is needed and what would be redundant.

However, particularly in the academic sphere, libraries may wish to consider several related factors. First, some academic libraries operate 24 hours per day or into late-night hours that may surpass the hours of availability for the emergency alternatives in question. If the library remains open until midnight and other campus personnel with medical expertise are gone by 5:00pm, then additional needs may exist during late-night hours. Weekend hours of operation when other campus entities are often closed should also be considered; a viable alternative at one time of day or week may not be reliable at other times.

Second, time is of the essence in many medical emergencies. When someone suffers a heart attack, every minute counts. The Texas Department of State Health Services reminds citizens, "If someone is not breathing (apneic) or their heart is not beating (pulseless), the person may die or suffer permanent damage before EMS arrives," and "bystanders trained to provide CPR or use defibrillator may be able to help until emergency medical personnel arrive" (When Minutes Count, 3-4). Some libraries may be located on a central street and more easily accessed by emergency responders, but some—especially on academic campuses—may be more complicated to access. Medical emergency interventions need not be understood as substitutes for calling emergency responders, but as supplemental aid that could

make the difference between a person living or dying while awaiting emergency responders. Ensuring that personnel are appropriately trained to recognize and respond in these emergencies need not obligate a staff member to intervene, but it empowers them to make the choice, rather than forcing them to stand by feeling helpless or powerless while a life hangs in the balance.

Some of the hesitations to adopt medical emergency interventions or training seem related to a lack of awareness because related training has not yet been conducted. For instance, numerous respondents expressed concerns about whether they were “allowed” to have naloxone, whether it was “safe” to administer naloxone, whether a staff member would be “infected” by administering naloxone, and whether personnel could be sued for administering naloxone. These responses seem related to a lack of training to raise awareness. First, naloxone comes in an FDA-approved nasal spray as well as an auto-injectable device; these forms, especially the nasal spray, are easier and safer for people without medical training to administer. They can eliminate safety concerns about using needles, following correct injection procedures, or risking possible infection from a used needle. Second, respondents may have been unaware that naloxone “has no effect on someone who does not have opioids in their system;” that stronger opioids “might require multiple doses of naloxone,” in which case there is little concern for administering too great an initial dose; and that the only side effect of naloxone administration is the possible experience of withdrawal symptoms, which is “uncomfortable...[but] usually not life threatening” (Naloxone DrugFacts). Finally, library personnel may be legally protected by Good Samaritan laws as well as workplace insurance when administering a reasonable intervention to a person in medical distress. A Good Samaritan law “provides protection from claims of negligence for those who provide care without expectation of payment,” particularly when the person being assisted is unable to give consent, though the precise details of these laws do vary among states (West & Varacallo).

Formal training to raise awareness of these facts may address some personnel concerns about exact dosages, adverse reactions, or legal liability in administering naloxone in medical emergencies. This is not exclusive to naloxone, either: descriptions of barriers such as “caution for use by staff to properly use AED equipment” suggest that the respondents had simply not been trained regarding the benefits of bystander intervention in cardiac arrests, or in the latest high-tech automatic defibrillators, which both visually and audibly walk the user through every step with less opportunity for error.

However, alongside these kinds of concerns, a certain amount of social stigma surrounding the subject of drug overdose may also be at play. One respondent explicitly wrote “Stigma” as the barrier to their library adopting naloxone; it is unclear whether they were expressing a personal attitude or their perception of the attitude among other library personnel, administrators, or the community. One respondent stated that the barrier to providing naloxone was “Religion,” which is not self-explanatory but may indicate some form of judgement of those who become addicted to opioids (or may simply indicate a religiously based opposition to administering medication). Other comments which identified a *Lack of Need* for naloxone, because “we do not have a lot of public users” or “we are a very small rural branch,” suggest that the respondents may have made assumptions that university students or rural dwellers are not affected by opioids. These themes echo, albeit faintly, the moral objections to naloxone administration discussed by Real and Bogel (2019a) and the social stigmas noted by Coleman et al. (2020).

One respondent also entered the word *Stigma* as the reason their library did not provide mental health crisis training. Other reported factors such as *Out of Scope*, *Lack of Interest*, *Lack of Priority*, *Lack of Thought*, *Management*, and *Requests Denied* might involve underlying stigma, but might also be understood simply at face value. Nationally, social stigma around mental health seems to be on the decline—a 2019 study from the American Psychological Association (APA) found that 87% of Americans felt “having a mental health disorder is nothing to be ashamed of”—but it has not yet been eliminated (Survey, 2019). In the same APA study, 22% of adults 18-34 did *not* agree about a lack of shame associated with mental health disorders, and 33% of respondents agreed that “people with mental health disorders scare me.” Depending on the community in which a particular library is located, stigma may prevent frank educational sessions on how to identify and deescalate a mental health crisis.

Mental health crisis training was only one of numerous interventions which many respondents deemed out of scope for libraries: in fact, AED was the only intervention for which *Out of Scope* was not mentioned at all as a reason for not adopting. This finding is in line with Real and Bogel, who noted staff resistance to “expansion of duties and expected skills” (2019a, 265). The scope of a 21st century library’s mission is always evolving and depends heavily on location, community needs/wants, and what other resources are or are not readily available. All the same, it is worth reflecting on the fact that no libraries deemed an AED to be outside their scope, as they deemed naloxone, and many libraries were equipped with Stop the Bleed kits and training. Why is stopping a cardiac arrest or bleeding more commonly considered in scope for libraries than stopping an overdose? Additional probing into this dichotomy may be valuable.

Epinephrine faces its own particular challenges in terms of scope. Multiple respondents indicated an assumption that patrons with allergic reaction risks would carry their own epinephrine injectors, eliminating the need for library provision. However, this assumption should perhaps be tempered by several considerations. First, even someone aware of their risk may not be equipped at all times in all places. They may have used their last injector recently, or they may not have anticipated exposure to a certain allergen in the library. Second, we should remain sensitive to the fact that not all allergies are known: “Adult-onset allergies can occur seemingly out of nowhere due to exposure to new allergens in the environment, family history and changes in the immune system,” and “you can wake up today irritated by an allergen that didn’t bother you yesterday” (What causes a person to develop allergies). Third, although “patients with a history of severe anaphylaxis are encouraged to always have an in date epinephrine injector available” (What causes a person to develop allergies), a patron with a history of only mild reactions may never have received a medical recommendation to carry an injector and thus may be unprepared for the day they suddenly experience a severe reaction.

According to the U.S. Food and Drug Administration, AEDs can be found in “many public places, including offices, schools, shopping malls, grocery stores, and airports” (How AEDs in public places can restart hearts)—not because administering medical aid is in the scope of their planned daily functions, but because emergencies are, by their nature, unplanned and will not always happen in convenient spaces at convenient times when expert assistance is readily available. Libraries, too, are public spaces patronized by a diverse range of people and, in some cases, they boast long hours of operation. Even if we set aside the public nature of libraries, employee safety is also a consideration. Some respondents expressed concern about older personnel not having the stamina to provide interventions such as CPR to patrons, but those staff members themselves may one day require medical interventions. The Occupational Safety and Health Administration (OSHA) recommendations state: “First aid must be

available within 3 to 4 minutes of an emergency. Worksites more than 3 to 4 minutes from an infirmary, clinic, or hospital should have at least one person on-site trained in first aid (available all shifts)” and further states that “it is essential that first aid supplies are available to the trained first aid providers” (2004, 2). Opinions will naturally vary regarding whether such *first aid* responsibility extends as far as AEDs or naloxone. However, especially considering some respondents’ comments that their workplaces are woefully underprepared for emergencies, libraries owe it to both their employees and patrons to at least have discussions about preparedness and to be sure that any decision, whether to adopt an intervention or not, is based on deliberate informed choices rather than a simple lack of forethought.

Even if a library decides medical interventions are valuable for their patrons and personnel, legitimate concerns exist regarding the costs of medical interventions. Many libraries have faced shrinking budgets for years and, despite some growth in 2019-2020 (before the onset of the COVID-19 pandemic), robust and dependable funding remains a challenge and a major advocacy issue for the American Library Association (Peet, 2020; Peet, 2021; Library Funding). Libraries may struggle to provide core information resources and programming, much less purchase and maintain expensive equipment and medication or fund recurring training sessions. As an illustrative example of cost: although the controversially expensive EpiPen and Adrenallick devices have been joined on the market by generic epinephrine injection options, those generic devices may still cost anywhere from \$110-400 for a two-dose package, and they often expire in just one year (Anderson, 2020). This represents significant costs for libraries to take on just in case of a potential need that may never actually arise. Comments regarding lack of managerial support and institutional permissions, captured in coded themes such as *Requests Denied*, could reflect insufficient funding as easily as they could reflect stigma or administrative lack of interest and priority.

Lastly, respondents’ expressed concerns regarding safety should not be disregarded. Real and Bogel (2019a) had noted the influence of considerations including staff fear of harming a patron and staff fear of being harmed by a revived patron, and the present study confirmed those concerns. Many such concerns are not insurmountable—providing appropriate training in CPR, epinephrine injection, or any other intervention will make the process significantly safer for both the patient and the bystander who intervenes. However, there is always some amount of risk involved: an intervention may be performed incorrectly, or a patient’s response to the intervention may inadvertently harm the person assisting them, such as a person potentially becoming violent when they experience withdrawal symptoms after naloxone administration. Libraries considering provision of any emergency medical intervention should take all steps possible to mitigate risks; allow staff to communicate their fears concerning their own safety; demonstrate that those concerns are taken seriously; and cultivate an environment in which staff members can make the choice to assist or not as befits their own individual risk assessment.

Limitations and Further Research

The most notable limitation is that the survey involved a relatively small and self-selected sample of libraries. Because of the researcher’s membership in academic library communities, survey distribution in those circles was easier, while public library distribution was more challenging. For instance, since the researcher was not a dues-paying member of a public library community within the Texas Library Association or American Library Association, distributing message targeted at those public library distribution lists was not possible. Additionally, because distribution lists in the Texas state association were leveraged, libraries in that geographic region are more significantly represented. More numerous

and more diverse responses might have been solicited with access to other distribution lists. That being said, the sample size still reflects an increase over preceding studies, perhaps providing a new benchmark on which further research can continue to build and expand.

The author also acknowledges that the data was based on individual respondents' knowledge and beliefs concerning the libraries where they worked. Assumptions, biases (conscious or unconscious), or insufficient knowledge of an individual respondent may have affected their assessment of the library's response or lack thereof. Respondents could be unaware of existing resources, incorrect in their assessment of why a resource is not available, or incorrect in their evaluation of whether a resource is forthcoming or under consideration.

Conclusions

While AEDs have penetrated about half of libraries, other medical interventions remain relatively uncommon. Survey findings show that many libraries have been fortunate to experience few or no medical emergencies, but also that some personnel fear their lack of preparation if an emergency were to arise. Most libraries rely on other alternatives from city, county, or campus emergency response, and cost is a major barrier to additional on-site preparedness, along with concern for legal liability. Library personnel seem divided regarding whether or to what extent emergency preparation is within the scope of their responsibility, and conclusions in this regard for an individual library should be reached through careful consideration of staff comfort and community need. Academic libraries in particular should consider not just what is available elsewhere on campus but how that availability compares to library hours of operation. More detailed guidance from national and state professional associations regarding the values, priorities, and expectations pertaining to medical emergency preparedness in libraries would be welcome, along with more opportunities—cost-conscious opportunities, at that—for library personnel training in this area.

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Appendix A. Questionnaire

Start of Block: Intro and Consent

Q1

My name is [name redacted], and I am [position and institution redacted]. I am asking individuals working in public or academic libraries in the U.S. to complete a survey which will result in publication.

The following survey includes questions that ask you to describe medical emergency resources and training provided by your library and any barriers to adoption of certain medical resources. It will take about 10-15 minutes of your time to complete the survey. To qualify for this study, you must be over the age of 18 and currently employed in a public or academic library in the U.S.

Your participation in this study is voluntary. If you decide to participate, you will be asked to identify your library, to assist in collating multiple responses from the same institution and pulling details about the library from official IMLS or IPEDS data. However, you will NOT be asked for any information about yourself, so your response will be anonymous – accordingly, IP addresses will NOT be stored.

If you have any questions regarding this survey, please contact me at [email redacted]. If you have any questions regarding your rights as a human subject and participant in this study, or to report research-related problems, you may call the Institutional Review Board at [institution and contact info redacted].

Q2 I consent to participate in this study.

Yes

No

End of Block: Intro and Consent

Start of Block: Eligibility

Q3 Are you 18 years of age or older?

Yes

No

Q4 Are you currently employed in either a public or academic library, located in a state or territory of the United States?

Yes

No

End of Block: Eligibility

Start of Block: Library Identification

Q29

The next few questions will ask you to identify your library, so that we can compile multiple responses about the same library.

Please remember that this survey will NOT ask any questions about you, so you will remain anonymous.

Q5 What best describes your library?

Public

Academic

Q6 Please enter your library's OCLC code.

OCLC Code _____

We don't have one / I don't know it

Q7 Please enter your specific library's name, which could distinguish it from other libraries in your system or academic institution (if there are others)--for example, John Doe Memorial Branch.

Q8 If applicable: Please enter the name of the system or academic institution with which your library is affiliated--for example, New City Public Library System, or New City Community College.

End of Block: Library Identification

Start of Block: Survey Questions

Q9 Does your library maintain an AED (automatic electronic defibrillator)?

Yes

No, but we have definite plans to acquire this within the next year

No, but acquisition is in our long-term plans

No, and acquisition is not currently in our plans

Display This Question:

If Q9 = Yes

Q10 Does your library provide training to employees on how to use the AED?

- Yes, and it is required for all employees
- Yes, but it is optional
- No, because we have dedicated security or social work personnel with this training
- No, but we have discussed the possibility
- No, and this possibility has not been discussed

Display This Question:

If Q9 = No, but acquisition is in our long-term plans

Or Q9 = No, and acquisition is not currently in our plans

Or Q10 = No, but we have discussed the possibility

Or Q10 = No, and this possibility has not been discussed

Q11 Describe any barriers to providing an AED or training in its use (whether practical, emotional, etc.)

Q12 Does your library maintain doses of naloxone (brand names Narcan, Evzio) that can be administered to individuals who are experiencing a narcotic overdose?

- Yes
- No, but we have definite plans to acquire this within the next year
- No, but acquisition is in our long-term plans
- No, and acquisition is not currently in our plans

Display This Question:

If Q12 = Yes

Q13 Does your library provide training to employees on how to administer naloxone?

- Yes, and it is required for all employees
- Yes, but it is optional
- No, because we have dedicated security or social work personnel with this training
- No, but we have discussed the possibility
- No, and this possibility has not been discussed

Display This Question:

If Q12 = No, but acquisition is in our long-term plans
Or Q12 = No, and acquisition is not currently in our plans
Or Q13 = No, but we have discussed the possibility
Or Q13 = No, and this possibility has not been discussed

Q14 In your opinion, what are the barriers to providing naloxone or training in its use (whether practical, emotional, etc.)?

Q15 Does your library maintain an epinephrine injection (such as EpiPen) that can be administered to an individual having a severe allergic reaction?

- Yes
 - No, but we have definite plans to acquire this within the next year
 - No, but acquisition is in our long-term plans
 - No, and acquisition is not currently in our plans
-

Display This Question:

If Q15 = Yes

Q16 Does your library provide training to employees on how to administer an epinephrine injection?

- Yes, and it is required for all employees
 - Yes, but it is optional
 - No, because we have dedicated security or social work personnel with this training
 - No, but we have discussed the possibility
 - No, and this possibility has not been discussed
-

Display This Question:

- If Q15 = No, but acquisition is in our long-term plans*
- Or Q15 = No, and acquisition is not currently in our plans*
- Or Q16 = No, but we have discussed the possibility*
- Or Q16 = No, and this possibility has not been discussed*

Q17 In your opinion, what are the barriers to providing epinephrine injections or training in their use (whether practical, emotional, etc.)?

Q18 Does your library provide CPR training to employees?

- Yes, and it is required for all employees
- Yes, but it is optional
- No, because we have dedicated security or social work personnel with this training
- No, but we have discussed the possibility
- No, and this possibility has not been discussed

Display This Question:

- If Q18 = No, but we have discussed the possibility*
- Or Q18 = No, and this possibility has not been discussed*

Q19 In your opinion, what are the barriers to providing CPR training (whether practical, emotional, etc.)?

Q20 Does your library provide training to employees about handling a mental health crisis, including suicidal ideation?

- Yes, and it is required for all employees
- Yes, but it is optional
- No, because we have dedicated security or social work personnel with this training
- No, but we have discussed the possibility
- No, and this possibility has not been discussed

Display This Question:

If Q20 = No, but we have discussed the possibility

Or Q20 = No, and this possibility has not been discussed

Q21 In your opinion, what are the barriers to providing training on handling a mental health crisis (whether practical, emotional, etc.)?

Q22

Does your library maintain other specialized emergency medical equipment/supplies? If so, please share details.

Q23 Does your library provide other emergency medical training? If so, please share details.

Q24 Optionally, please share any other comments you may have regarding medical emergency preparedness in your library, and/or any barriers to adoption that you observe.

End of Block: Survey Questions
